

CLAIMS:

1. A miter saw comprising:

a base assembly defining a cutting zone;

5 a motor assembly associated with the base assembly and including an arbor rotatable about an elongate central axis;

a blade mounted on the arbor and configured to selectively cut workpieces in the cutting zone; and

10 a safety system including one or more support arms and a braking mechanism having at least one brake member adapted to engage the blade, where the brake member is coupled to the one or more support arms, and where the one or more support arms are configured to move the brake member about the elongate central axis of the arbor.

15 2. The miter saw of claim 1, further comprising a fastener configured to fasten the blade to the arbor, and where at least one of the one or more support arms includes an opening configured to facilitate installation of the fastener.

3. The miter saw of claim 1, further comprising a pivot arm assembly configured to couple the motor assembly to the base assembly, where the pivot arm assembly may be pivoted toward and away from the cutting zone, and where the one or more support arms are configured to move the brake member about the elongate central axis of the arbor as the pivot arm assembly is pivoted toward and away from the cutting zone.

4. The miter saw of claim 3, where the one or more support arms are configured to move the brake member in a direction generally opposite to the direction in which the pivot arm assembly is pivoted.

5. The miter saw of claim 3, further comprising one or more linkage assemblies configured to couple the one or more support arms to a portion of the base assembly.

6. The miter saw of claim 5, where the blade has angular momentum when rotating, and where the brake member is configured to transfer at least a portion of the angular momentum of the blade to the one or more support arms.

7. The miter saw of claim 6, where the one or more linkage assemblies are configured to transfer at least a portion of the angular momentum of the blade from the one or more support arms to the base assembly.

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8. The miter saw of claim 1, where the safety system includes a detection system configured to detect accidental contact between a person and the blade, and where the brake member is configured to engage and stop the rotation of the blade if the detection system detects such contact.

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9. The miter saw of claim 1, further comprising a housing configured to cover at least a portion of the blade, and where the support arms are configured to selectively move the brake member into and out of the housing.

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10. A miter saw comprising:

a base assembly defining a cutting zone;

a pivot arm assembly pivotally coupled to the base assembly;

a rotatable blade supported by the pivot arm assembly and configured to cut workpieces

5 within the cutting zone; and

means for stopping the rotation of the blade;

where the blade has angular momentum when rotating, and where the means for stopping the rotation of the blade includes means for transferring at least a portion of the angular momentum of the blade to the base assembly.

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11. The miter saw of claim 10, where the base assembly includes a base configured to support workpieces, where the means for transferring is configured to transfer at least a portion of the angular momentum of the blade to a first region of the base assembly, and where the first  
15 region is above the base.

12. The miter saw of claim 10, where the base assembly includes a base configured to support workpieces and a tilt mechanism configured to tilt relative to the base, where the pivot arm assembly is pivotally coupled to the tilt mechanism, and where the means for transferring is configured to transfer at least a portion of the angular momentum of the blade to the tilt mechanism.

13. The miter saw of claim 10, further comprising means for urging the pivot arm assembly in a direction away from the cutting zone.

14. The miter saw of claim 13, where the means for urging includes means for converting at least a portion of the angular momentum of the blade into a force on the pivot arm assembly in a direction away from the cutting zone.

15. The miter saw of claim 10, further comprising means for detecting accidental contact between a person and the blade, and where the means for stopping the rotation of the blade is configured to stop the rotation of the blade if such accidental contact is detected.

16. A miter saw comprising:

a base assembly;

a housing pivotally coupled to the base assembly;

a circular blade supported at least partially within the housing;

5 a motor configured to rotate the blade; and

a safety system including at least one brake member disposed within the housing and adapted to engage and stop the rotation of the blade;

where the brake member is coupled to the housing by support structure configured to move the brake member within the housing and around the perimeter of the blade.

10 17. The miter saw of claim 16, where the support structure includes at least one pivot pin disposed within the housing, and where the brake member is mounted on the pivot pin.

15 18. The miter saw of claim 17, where the housing includes an outer wall, and where the at least one pivot pin extends at least partially through the outer wall of the housing.

19. The miter saw of claim 16, where the housing includes at least one opening configured to allow the installation and removal of the brake member, and a cover selectively movable to cover and uncover the opening.

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20. The miter saw of claim 16, where the support structure is configured to move the brake member at least partially out of the housing to allow installation and removal of the brake member.

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